REPEATS

A string *s* is called an *(k,l)-repeat* if s is obtained by concatenating $k \geq 1$ times some seed string *t* with length $l \geq 1$. For example, the string

```
s = abaabaabaaba
```

is a (4,3)-repeat with

```
t = aba
```

as its seed string. That is, the seed string *t* is 3 characters long, and the whole string *s* is obtained by repeating *t* 4 times.

Write a program for the following task: Your program is given a long string *u* consisting of characters 'a' and/or 'b' as input. Your program must find some *(k,l)*-repeat that occurs as substring within *u* with *k* as large as possible. For example, the input string

```
u = babbabaabaabaabab
```

contains the underlined (4,3)-repeat s starting at position 5. Since *u* contains no other contiguous substring with more than 4 repeats, your program must output this underlined substring.

Input

In the first line of the input file `repeats.in` one integer - length of the input string n ($1 \leq n \leq 50000$) is given.

The next *n* file lines contain the input string, one character (either 'a' or 'b') per line, in order.

Output

The output file `repeats.out` must consist of three integers, each on its own line. They report the *(k, l)*-repeat your program found as follows:

1. The first line consists of the repeat count *k* that is maximized.
2. The second line consists of the length *l* of the seed string that is repeated *k* times.
3. The third and final line consists of the position p ($1 \leq p \leq n$) at which the *(k, l)*-repeat starts.

If for given test data there are different solutions with the same *k*, your program must report any one of them.

Example *(corresponds to string u given in task description)*

repeats.in	repeats.out
17 b a b b a b a a b a a b a a b	4 3 5 since a (4, 3)-repeat is found starting at the 5th character of the input string (which is line 6 of the input file).